

CI/CD

Accelerate your Software Delivery With CI/CD Practices

By: Muhammed Ali

Continuous integration

Continuous Integration (CI) is the process of integrating code changes from multiple contributors to create a single software project.

Continuous integration refers to the build and unit testing stages of the software release process. Every revision that is committed triggers an automated build and test



Continuous Deployment

Continuous deployment (CD) is a strategy in software development where code changes to an application are released automatically into the production environment.

This automation is driven by a series of stages like Provisioning, configuration management and predefined tests. Once new updates pass those tests, the system pushes the updates directly to the software's users.



CI/CD Benefits

☐ Faster product delivery

With a smooth CI/CD workflow, multiple daily releases can become a reality.

☐ Reduced risk of defects

You can test and deploy code more frequently using a CI/CD pipeline, giving QA engineers the power to identify and fix errors as soon as they occur.

☐ Quick rollback if required

If any new code change breaks a feature or general application, you can revert to its previous stable version right away.

☐ Efficient testing & monitoring

Using continuous monitoring, Ops teams can oversee and ensure that the application is running as expected and that the environment is stable.



CI/CD Challenges

☐ Performance Issues

If CI/CD implementation is not done correctly, performance issues such as slow page loading, sluggish server responses, and memory optimization can affect your software speed, responsiveness, stability, and overall scalability.

☐ Security Vulnerabilities

Some security vulnerabilities in the CI/CD pipeline make it prone to cyberattacks. Any sensitive information in the pipeline can be stolen by the attacker, which can be disastrous.

☐ Team Communication

When you are working within a team, if something fails during the deployment, then you need to communicate with your team to resolve it quickly. Moreover, problems may arise if an automated build test finds an error and does not communicate it.

